EMF Report

(EN 50663 & EN 62479)

Product Model: BBU3900, BBU3910, BBU3910M, BBU5900, BBU5900A(AC), BBU5900A(DC)

Report Number: SYBH(R-EMF)07375427-1

Global Compliance and Testing Center of Huawei Technologies Co., Ltd.

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NOTICE

1. The laboratory has passed the accreditation by China National Accreditation Service for Conformity Assessment (CNAS). The accreditation number is L0310.
2. The laboratory has passed the accreditation by The American Association for Laboratory Accreditation (A2LA). The accreditation number is 2174.01.
3. The laboratory (Reliability Laboratory of Huawei Technologies Co., Ltd.) is also named as "Global Compliance and Testing Center of Huawei Technologies Co., Ltd."; the both names have coexisted since 2009.
4. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
5. The test report is invalid if there is any evidence of erasure and/or falsification.
6. The test report is only valid for the test samples.
7. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
8. All dates in the test report, including attachment document(s) (if applicable), have the format of “yyyy-MM-dd”.

Applicant:	Huawei Technologies Co., Ltd.
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Product Model:	BBU3900, BBU3910, BBU3910M, BBU5900, BBU5900A(AC), BBU5900A(DC)
Date of Receipt Sample:	2021-01-18
Start Date of Test:	2021-01-19
End Date of Test:	2021-01-19
Test Result:	Pass

Approved by Senior Engineer:	2021-01-19	Zhang Xinghai	
	Date	Name	Signature
Prepared by:	2021-01-19	Zhang Weimin	
	Date	Name	Signature

MODIFICATION RECORD

No.	Report No.	Modification Description
1	SYBH(R-EMF)07375427-1	First report. _____ Note: The test project number is 07375427.

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1 General Information

1.1 Applied Standard(s)

European Norms (EN):	EN 50663: 2017	
	EN 62479: 2010	
Other References:	Council Recommendation 1999/519/EC	(Note)
	Directive 2013/35/EU	(Note)
	IEC 62479: 2010	
	EN 62311: 2008	
	IEC 62311: 2007	
	ICNIRP Guideline 1998	(Note)

Note: As radio exposure requirements, it does not fall into the scope of A2LA or CNAS.

1.2 Test Location

Test Location 1 (TL1):	Global Compliance and Testing Center of Huawei Technologies Co., Ltd. (Reliability Laboratory of Huawei Technologies Co., Ltd.)
Address:	NO.2 New City Avenue, Songshan Lake Sci. &Tech. Industry Park, Dongguan, Guangdong, 523808, P.R.C

1.3 Test Environment Condition

Ambient Temperature:	15 to 30 °C
Ambient Relative Humidity:	20 to 85 %
Atmospheric Pressure:	Not applicable

2 EMF Exposure Requirements

2.1 Equipment used by the general public

The basic restrictions for frequencies above 10 MHz in Table 1 of Annex II of Council Recommendation 1999/519/EC shall be applied. Notes 1, 6, 7 and 8 of this Table also shall be applied.

2.2 Equipment used only by workers

The exposure limit values in Tables A1, A2 and A3 of Annex II of Directive 2013/35/EU shall be applied. Notes A1-1, A2-1 and A3-1 to those Tables also shall be applied.

3 EMF Exposure Assessment

3.1 STEP 1 – Determine the applied limit

NOTE: According to clause 4 of EN 50663, equipment which meets the limits for general public exposure will automatically meet the limits for workers. However, equipment which meets the limits for workers will not necessarily meet the limits for the general public and, unless intended only for workers' use at work, equipment shall also be tested against general public limits.

☐ If the intended exposure conditions for workers are required to follow those for general public:
Only general public exposure shall be met.

☐ If the product is restricted to workers when at work, and this condition is clearly identified in the product documentation:
Only worker exposure shall be met.

☒ Otherwise, the product can be accessed by both workers and general public:
Both general public exposure and worker exposure shall be met.

3.2 STEP 2 – Select the low-power exclusion level, P_{max}

The low-power exclusion level, according to clause 6 of EN 50663, is:

Exposure tier	Region of body	P_{max} (mW)
☒ General public	☒ Head and trunk	20
	☐ Limbs	40
☒ Workers	☒ Head and trunk	100
	☐ Limbs	200

3.3 STEP 3 – Select compliance route

According to clause 6 of EN 50663 and clause 4.1 of EN 62479, choose compliance route according to the available antenna power and/or average TRP of the combination of transmitter and antenna(s) with highest configuration:

☒ Route A – Inherently compliant:
The EUT as a low-power equipment is an incandescent light bulbs and audio/visual (A/V) equipment, information technology equipment (ITE) and multimedia equipment (MME) that does not contain radio transmitters.

☐ Route B – Input power:
The input power level to electrical or electronic components that are capable of radiating electromagnetic energy in the relevant frequency range is so low that the available antenna power and/or the average total radiated power cannot exceed the low-power exclusion level defined in Step 2. In this case, the input power level is (see detailed in product specifications): _____ mW.

☐ Route C – Allowed output power:
The available antenna power and/or the average total radiated power are limited by product standards for transmitters to levels below the low-power exclusion level defined in Step 2. In this case (see detailed in RF report(s)):
☐ the limit of available antenna power (conducted) in product standard is: _____ mW (= _____ dBm) as

specified in ETSI EN _____, and/or

☐ the limit of average total radiated power (TRP) in product standard is: _____ mW (= _____ dBm) as specified in ETSI EN _____.

☐ Route D – Measurement or calculation:

Measurements or calculations show that the available antenna power and/or the average total radiated power are below the low-power exclusion level defined in Step 2. In this case:

☐ the measured or calculated available antenna power (conducted) is: _____ mW (= _____ dBm) as recorded in RF report _____, and/or

☐ the measured or calculated average total radiated power (TRP) is: _____ mW (= _____ dBm) as recorded in RF report _____.

3.4 STEP 4 – Determine the uncertainty and the adjusted low-power exclusion level, P^*_{max}

☒ Route A – Inherently compliant:

No uncertainty applied. No adjustment to P_{max}, so $P^*_{max} = P_{max}$.

☐ Route B – Input power:

The uncertainty for input power level is: _____ % (=_____ dB).

☐ If the uncertainty exceeds 30 %, then the P_{max} is adjusted to P^*_{max}:

☐ General public: _____ mW.

☐ Workers: _____ mW.

☐ Otherwise no adjustment to P_{max}, so $P^*_{max} = P_{max}$.

☐ Route C – Allowed output power:

The uncertainty for power level is: _____ % (=_____ dB) (see detailed in RF report(s)).

☐ If the uncertainty exceeds 30 %, then the P_{max} is adjusted to P^*_{max}:

☐ General public: _____ mW.

☐ Workers: _____ mW.

☐ Otherwise no adjustment to P_{max}, so $P^*_{max} = P_{max}$.

☐ Route D – Measurement or calculation:

The uncertainty for measurements or calculations power level is: _____ % (=_____ dB) (see detailed in RF report(s)).

☐ If the uncertainty exceeds 30 %, then the P_{max} is adjusted to P^*_{max}:

☐ General public: _____ mW.

☐ Workers: _____ mW.

☐ Otherwise no adjustment to P_{max}, so $P^*_{max} = P_{max}$.

3.5 STEP 5 – Confirm compliance

Comparing value in Step 3 with P^*_{max} in Step 4, the EUT:

☒ Inherently comply with the low-power exclusion level P^*_{max} (for Route A), or

☐ Meets the low-power exclusion level P^*_{max} (for Route B, C, or D).

4 Conclusion

The EUT, as a low-power electronic and electrical equipment operating at frequencies between 10 MHz and 300 GHz, is deemed to comply with the EMF exposure basic restrictions (for general public) and/or exposure limit values (for workers), as appropriate.

SUPPLEMENTARY INFORMATION:

- The EUT shall be properly operated such that exposures will be compliant with the basic restrictions or exposure limit values. The Annex A of this document gives a general EMF exposure guidelines information for reference.
- The EUT cannot be modified to change its power and/or antenna(s) so that it could exceed the low-power exclusion level. If this is the case, the EMF exposure shall be re-evaluated.

Annex A General RF Exposure Warning Information (Informative)

The following RF exposure warning information may be used in product manual/instructions as general guidelines:

This device complies with relevant EMF exposure limits. This equipment should be installed and/or operated with a minimum distance as below between the radiator and your body:

- Council Recommendation 1999/519/EC: zero meters
- Directive 2013/35/EU: zero meters

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END